DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1-7, drawn to an optical record carrier.

Group 2, claim(s) 8-10, drawn to a reading device.

Group 3, claim(s) 11, drawn to a method for reading optical information.

2. The inventions listed as Groups 1-3 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The feature that unites claims 1-11 and groups 1-3 is an optical carrier comprising at least one information layer (P1) containing material showing amplified spontaneous emission(ASE) when stimulated by and optical beam. However, this feature is present in the prior art as evidenced by the "X" references cited on the International Search Report of April of 2005. Therefore, because this feature is shown not to make a contribution over the prior art, it is not a special technical feature and cannot unite the claims.

3. During a telephone conversation with Michael Belk on April 7,2008 a provisional election was made with traverse to prosecute the invention of 1, claims 1-7. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-11 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1,2, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Alperovich et al WO 99/24527 as evidenced by Kauffman, Joel M. Applied Optics. 19, 20(1980).

Alperovich et al teaches a single or multi-layer optical recording medium containing fluorescent compositions. Suitable fluorescent compositions are

taught(abstract). In example 1, fluorescence composition Oxazine 1 is used(page 16, lines 15-page 17, line 10).

Kauffman, Joel M. Applied Optics. 19, 20(1980) teaches laser dyes including Coumarins(dyes 2-19) Rhodamines(dyes 20-26), and Oxazine 1(dye 30). Laser dyes inherently are able to undergo Amplified Spontaneous Emission to cause lasing action.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-2,5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alperovich et al WO 99/24527 as evidenced by Kauffman, Joel M. Applied Optics. 19, 20(1980), in view of Partridge Jr, William P. et al. Optics Letters 19, 20 (1994), and Sasaki et al. JP-11043491(English language translation provided).

Since Alperovich teaches the use of Rhodamines and oxazine-1 in fluorescent single and multi-layer optical recording media, it is the position of the examiner that the reference teaches that laser dyes can be use in fluorescent single or multi-layer optical recording media. Laser dyes undergo Amplified Spontaneous Emission (ASE).

Partridge et al. discloses the use of Pyrromethene 597(PM-597) as a laser dye.

Sasaki et al. teaches the use of pyrromethene metal chelate compounds in optical recording media. A pyrromethene dye almost identical to PM-597 is disclosed at (0070).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Alperovich by using laser dyes such as use PM-597 as the fluorescent in the single or multi-layer(increased capacity) optical recording media taught by Alperovich, based on Alperovich's use of laser dyes such as rhodamine type dyes, and oxazine-one and with the reasonable expectation of success based on the disclosure by Partridge et al. that PM-597 is a known laser dye and based on the prior use of pyrromethene type dyes in optical recording media by Sasaki et al.

7. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alperovich et al WO 99/24527 as evidenced by Kauffman, Joel M. Applied Optics. 19, 20(1980), in view of Kawabe, Y. et al. Applied Physics Letters. 81,8(2002), and Wang, Lili et al. Chem. Mater. 13, 1273-1281(2001).

Kawabe et al. teaches thin-film lasers based on dye-DNA lipid complexes. DNA-DMASDPB films are coated in Teflon plates (p. 1372, first column). These thin-films exhibit Amplified Spontaneous emission(laser action without cavities)(abstract).

Wang et al. teaches DNA-DMASDPB films(abstract). Other Dye-DNA complexes are disclosed (page 1274, column 2). Preparation of films is disclosed at (page 1274, column 2). Thin films could also be formed on quartz plate, ITO/glass slide, mica ,surface of Pt electrode by spin coating(p. 1275, column 1). These self-assembled functional dye containing DNA –surfactant complex materials, with good processability

for multilayer integration into large-area devices will have promising applications in molecular, optical, and molecular optoelectronic fields(abstract)

It would have been obvious to one of ordinary skill in the art to modify the single or multi-layer(increased capacity) optical recording medium taught by Alperovich by using the DNA-DMASDPB films taught by Kawabe et al. and Wang et al. with the reasonable expectation of success based on the disclosure that DMASDPB is a laser dye and based on the disclosure in Kawabe et al. that thin film preparations of DNA-DMASDPB exhibit Amplified Spontaneous Emission (ASE).

8. Claims 1-2 and 6- 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alperovich et al WO 99/24527 in view of Kauffman, Joel M. Applied Optics. 19, 20(1980), Prasad et al. US 2003/022105, and He, Guang. The Journal of Quantum Electronics. 39,8 (2003).

Prasad et al. teaches two-photon upconverting dyes and application. Coating of an optically responsive material such as a laser dye on glass is taught at (0346). Laser dyes for coating the surface include many organic compounds exhibiting lasing activity including, stilbenes, coumarins, oxazoles, etc(0347). Stilbene APSS is used in figures 14-16(0103-0104).

He et al. discloses that three-proton pumped stimulated emission has been observed in solutions of APSS. APSS is a laser dye(page 1003, first column).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use APSS, as taught by Prasad and He, as the fluorescent composition of the single or multilayer(increased capacity) optical recording media taught by Alperovich

based on the use of laser dyes as the fluorescence material by Alperovich and with a reasonable expectation of success based on the disclosure of equivalence by Prasad et al.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNA L. VERDERAME whose telephone number is (571)272-6420. The examiner can normally be reached on M-F 8A-4:30P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571)272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. L. V./

Examiner, Art Unit 1795

/Martin J Angebranndt/
Primary Examiner, Art Unit 1795